

ABSTRACT OF THE DISCLOSURE:

A nonvolatile magnetic memory device having a nonvolatile magnetic memory array comprising write-in word line(s), bit lines and tunnel magnetoresistance devices, wherein when data is written into the tunnel magnetoresistance device, a current  $I(m)_{RWL}$  is passed through the m-th-place write-in word line, a current  $g(0) \cdot I(n)_{BL}$  is passed through the n-th-place bit line, and at the same time, a current  $g(k) \cdot I(n)_{BL}$  is passed through the q-th-place bit line ( $q = n + k$ ,  $k$  is  $\pm 1$ ,  $\pm 2$ , ..., and the total number of the lines is  $K$ ), and a spatial FIR filter assuming magnetic fields, which are supposed to be formed in the n-th-place bit line and the bit lines that are  $K$  in number by the current  $I(n)_{BL}$ , to be discrete pulse response and assuming the coefficients  $g(0)$  and  $g(k)$  to be tap-gains is constituted of the n-th-place bit line and the bit lines that are  $K$  in number.